6076267 6626260

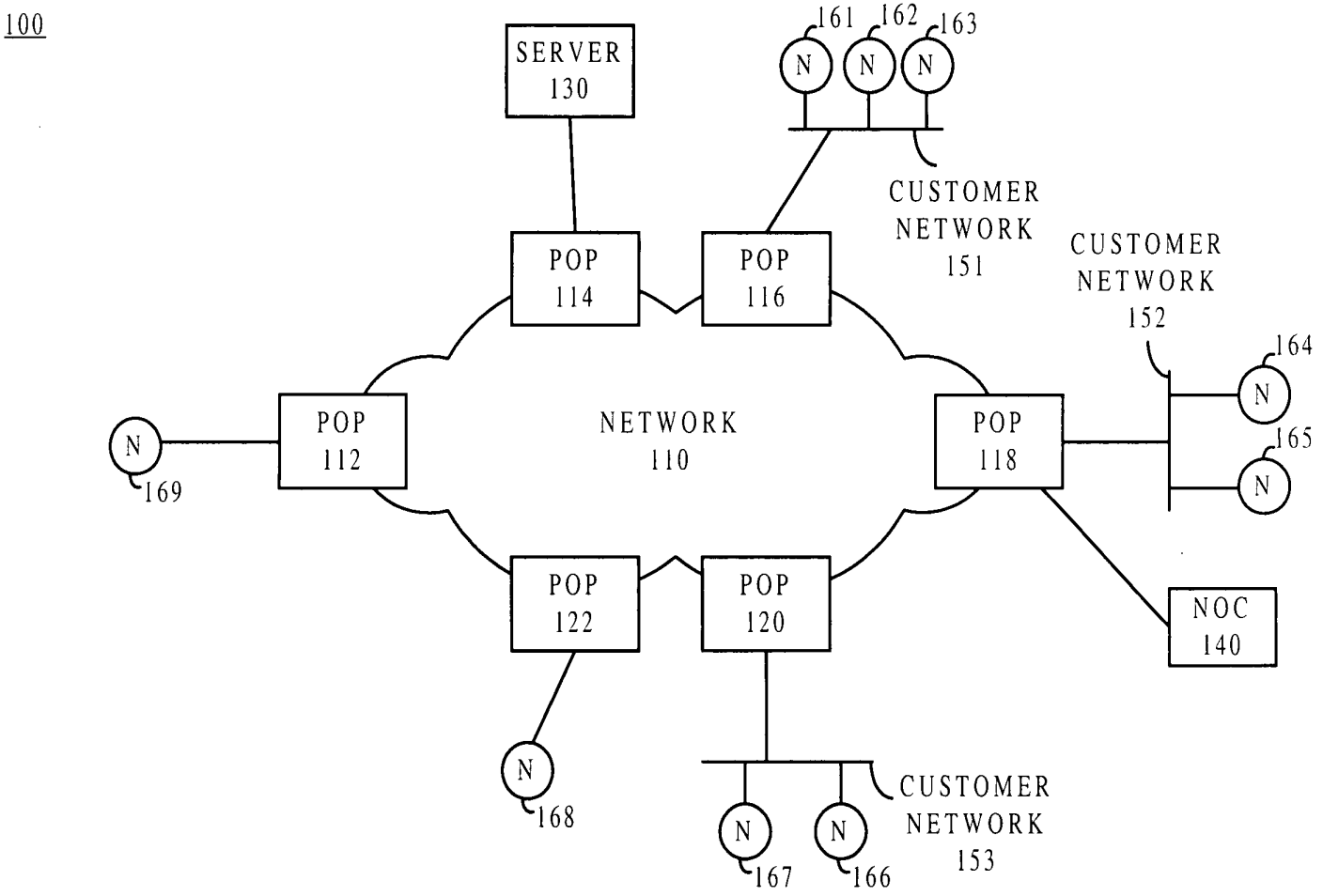

FIG. 1

Patent Application Publication

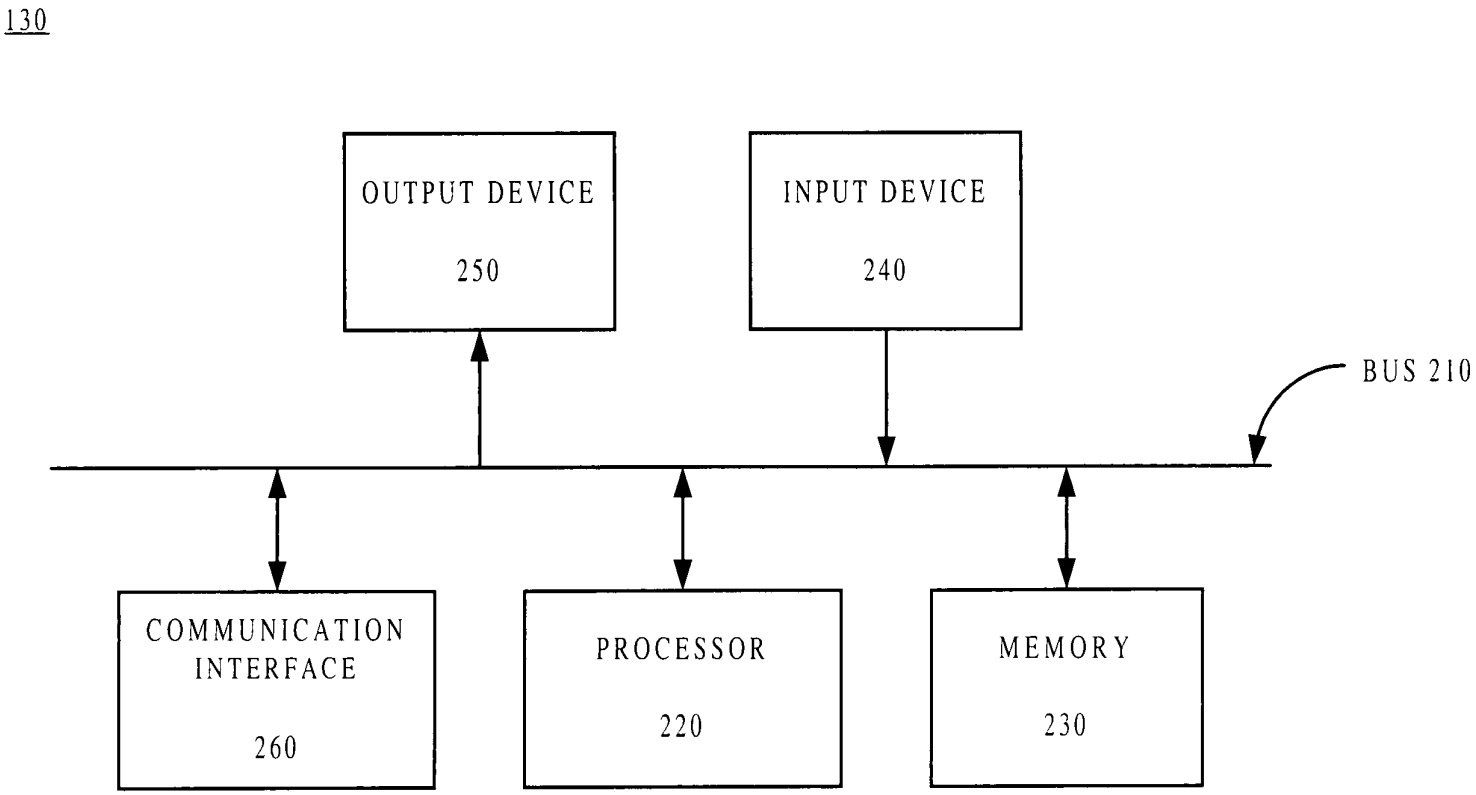

FIG. 2

3012AT 2026360

310

ALARM TYPE 311	NUMBER 312	STATE 313	ACTION 314	TIME 315	DATE 316	NE ID 317	ALARM DESCRIPTION 318
FIRE	5	E		18:34:22	11/02/99	ABCDEFG03H	ALARM DESCRIPTION
LINE	1	E		18:34:24	11/02/99	ABCDEFG03H	ALARM DESCRIPTION
LINE	1	AE		18:34:28	11/02/99	ABCDEFG03H	ALARM DESCRIPTION
PORT	1	E		18:34:28	11/02/99	ABCDEFG03H	ALARM DESCRIPTION
LINE	2	A	PA	18:34:29	11/02/99	ABCDEFG03H	ALARM DESCRIPTION
PORT	1	E		18:34:29	11/02/99	ABCDEFG03H	ALARM DESCRIPTION

305

FIG. 3A

330

NE 331	ID 332	ALARMS 333					TT 334	HA 335	NOTES 336	IN 337	USERS 338	EA 339	LAST MODIFIED 340
		C	MA	MI	I	TOTAL							
FR SWITCH	ABCDEFG03H	32	35	54	9	130	20		14		2		11/02/1999 11:38:34
ATM SWITCH	ABCDEFG04H	21	98	20	10	149	21	3	2	1	4	1	11/02/1999 11:39:42
IP ROUTER	ABCDEFG05H	0	0	0	95	95	25		4		1		11/02/1999 11:38:34
FR SWITCH	ABCDEFG06H	0	0	0	87	87					1		11/02/1999 11:38:34
ATM SWITCH	ABCDEFG07H	0	0	0	64	64	2				1		11/02/1999 11:38:34
ATM SWITCH	ABCDEFG08H	0	20	0	0	20			1		1		11/02/1999 11:37:51

325

FIG. 3B

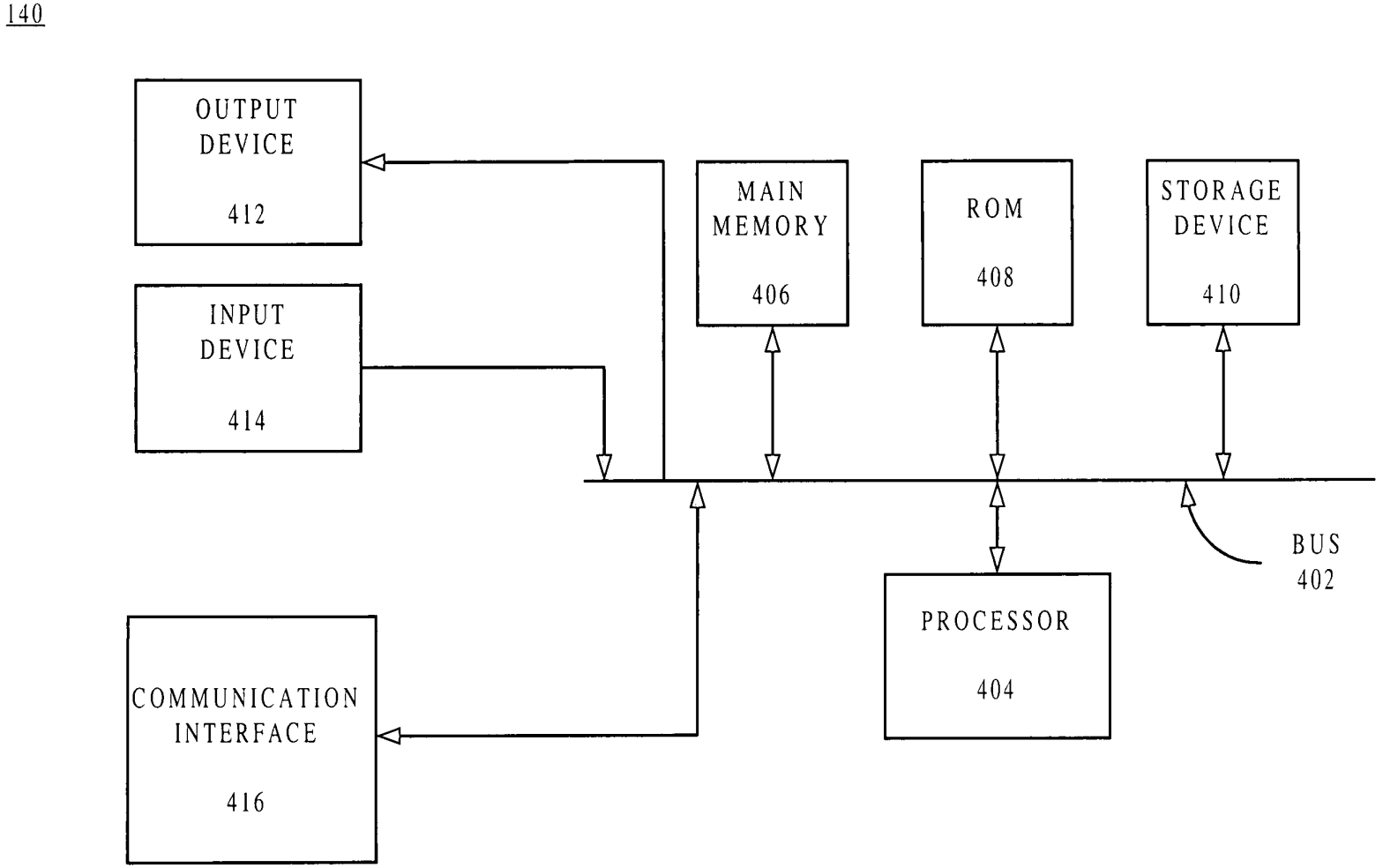
140
OUTPUT DEVICE 412
INPUT DEVICE 414
COMMUNICATION INTERFACE 416
MAIN MEMORY 406
ROM 408
STORAGE DEVICE 410
PROCESSOR 404
BUS 402

FIG. 4

500

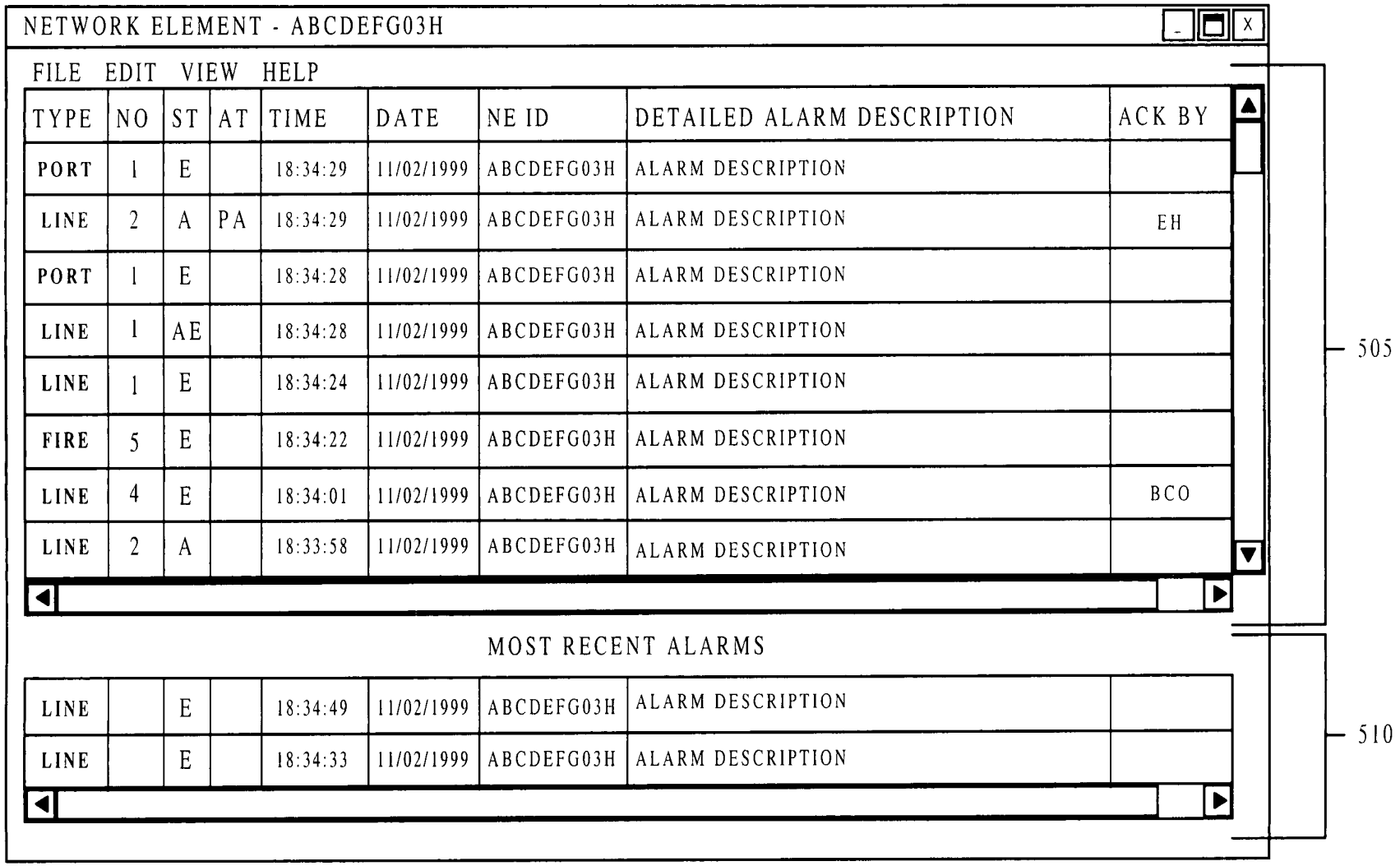
NETWORK ELEMENT - ABCDEFG03H
FILE EDIT VIEW HELP
TYPE NO ST AT TIME DATE NE ID DETAILED ALARM DESCRIPTION ACK BY
PORT 1 E 18:34:29 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
LINE 2 A PA 18:34:29 11/02/1999 ABCDEFG03H ALARM DESCRIPTION EH
PORT 1 E 18:34:28 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
LINE 1 AE 18:34:28 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
LINE 1 E 18:34:24 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
FIRE 5 E 18:34:22 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
LINE 4 E 18:34:01 11/02/1999 ABCDEFG03H ALARM DESCRIPTION BCO
LINE 2 A 18:33:58 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
505
MOST RECENT ALARMS
LINE E 18:34:49 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
LINE E 18:34:33 11/02/1999 ABCDEFG03H ALARM DESCRIPTION
510

FIG. 5

600

TROUBLE INFORMATION MATRIX

FILE EDIT VIEW HELP

NE	ID	ALARMS CR	MAJ	MIN	INFO	TOTAL	TICKETS	HELD ALARMS	NOTES	IN	US	EA	LAST MODIFIED
ATM	ABCDEFG04H	21	98	20	10	149	21	3	2	1	4	2	11/02/1999 11:39:42 EST
FR	ABCDEFG03H	32	35	54	9	130	20		14		2	2	11/02/1999 11:38:34 EST
IP	ABCDEFG05H	0	0	0	95	95	25		4		1		11/02/1999 11:38:34 EST
FR	ABCDEFG06H	0	0	0	87	87					1		11/02/1999 11:38:34 EST
ATM	ABCDEFG07H	0	0	0	64	64					1		11/02/1999 11:38:34 EST
ATM	ABCDEFG08H	0	20	0	0	20	2		1		1		11/02/1999 11:37:51 EST
ATM	ABCDEFG09H	0	20	0	0	20	4				1		11/02/1999 11:41:21 EST
IP	ABCDEFG10H	0	0	0	4	4					1		11/02/1999 11:38:45 EST
IP	ABCDEFG11H	0	0	0	3	3	1				1		11/02/1999 11:37:48 EST
ATM	ABCDEFG12H	0	0	0	1	1			1		1		11/02/1999 11:38:24 EST

FIG. 6

700

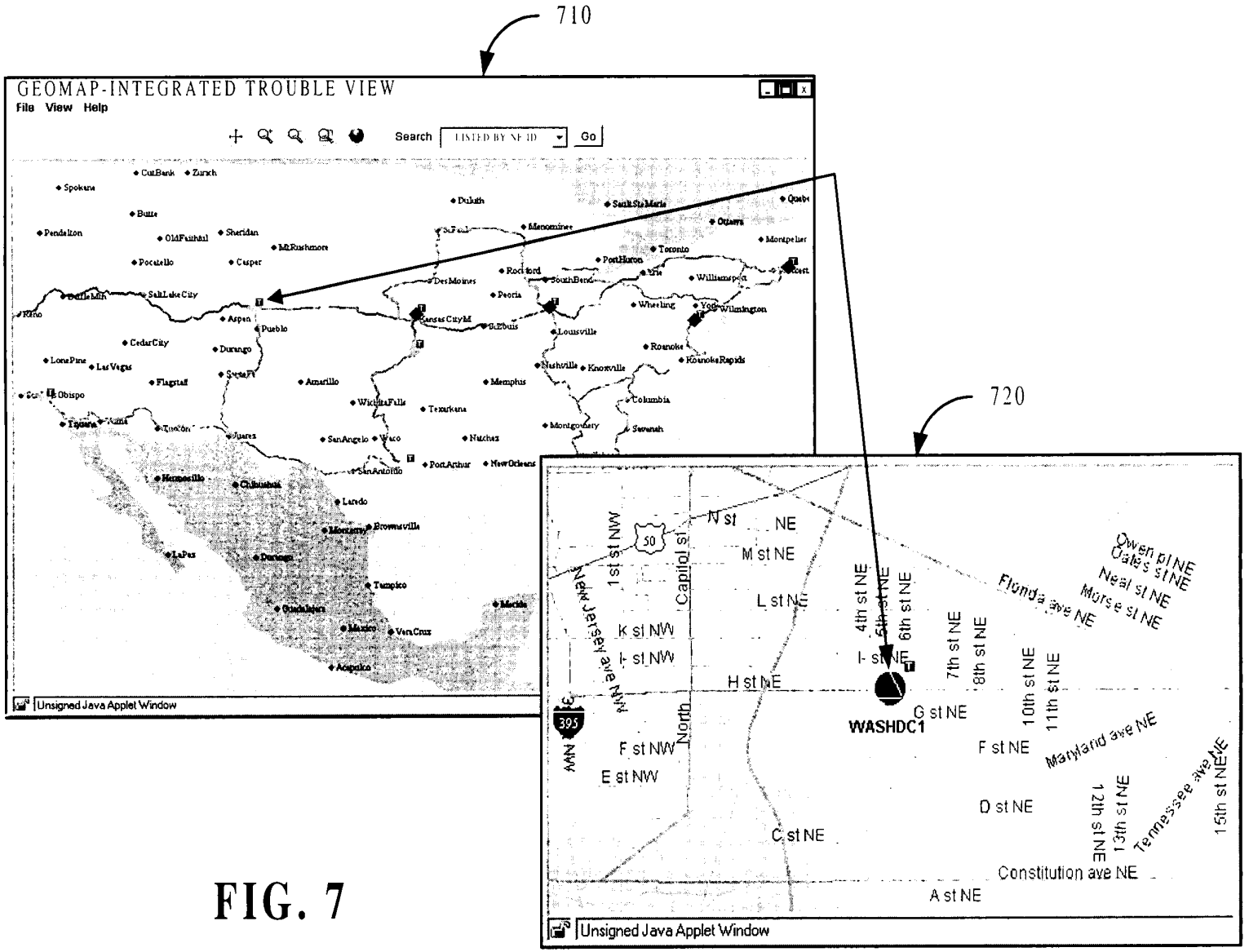
710
GEOMAP-INTEGRATED TROUBLE VIEW
File View Help
Search
Go
Unsigned Java Applet Window
720
WASHDC1
N st NE
M st NE
L st NE
K st NW
I st NW
H st NE
G st NE
F st NW
F st NE
E st NW
D st NE
C st NE
A st NE
1st st NW
Capitol st
New Jersey ave NW
North
4th st NE
5th st NE
6th st NE
7th st NE
8th st NE
10th st NE
11th st NE
12th st NE
13th st NE
15th st NE
Florida ave NE
Maryland ave NE
Tennessee ave NE
Constitution ave NE
Owen pl NE
Gales st NE
Neal st NE
Morse st NE
Unsigned Java Applet Window

FIG. 7

800

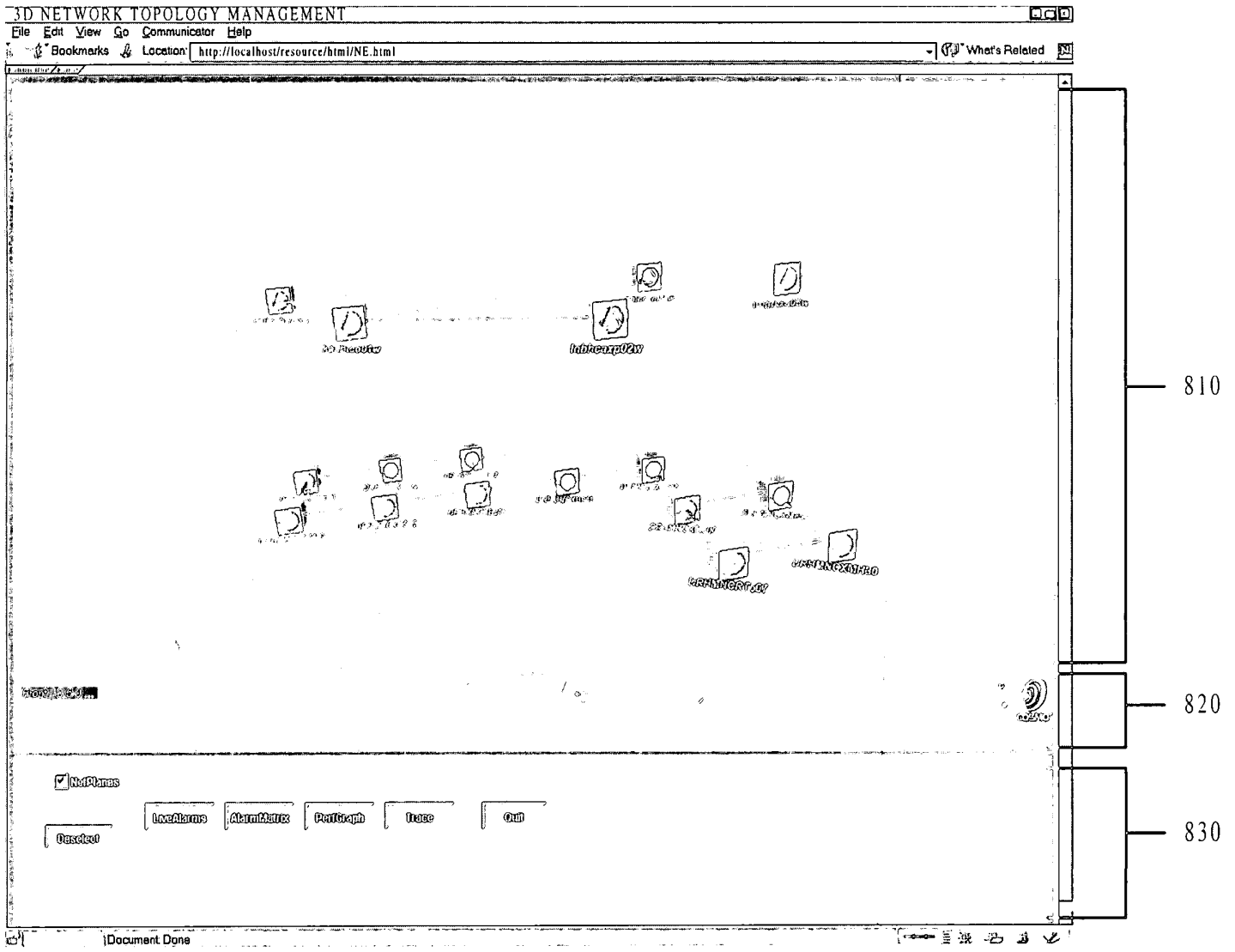
3D NETWORK TOPOLOGY MANAGEMENT
File Edit View Go Communicator Help
Bookmarks Location: http://localhost/resource/html/NE.html
What's Related
NetPlanes
LiveAlarms
AlarmMatrix
PerfGraph
Trace
Quit
Document Done
810
820
830

FIG. 8

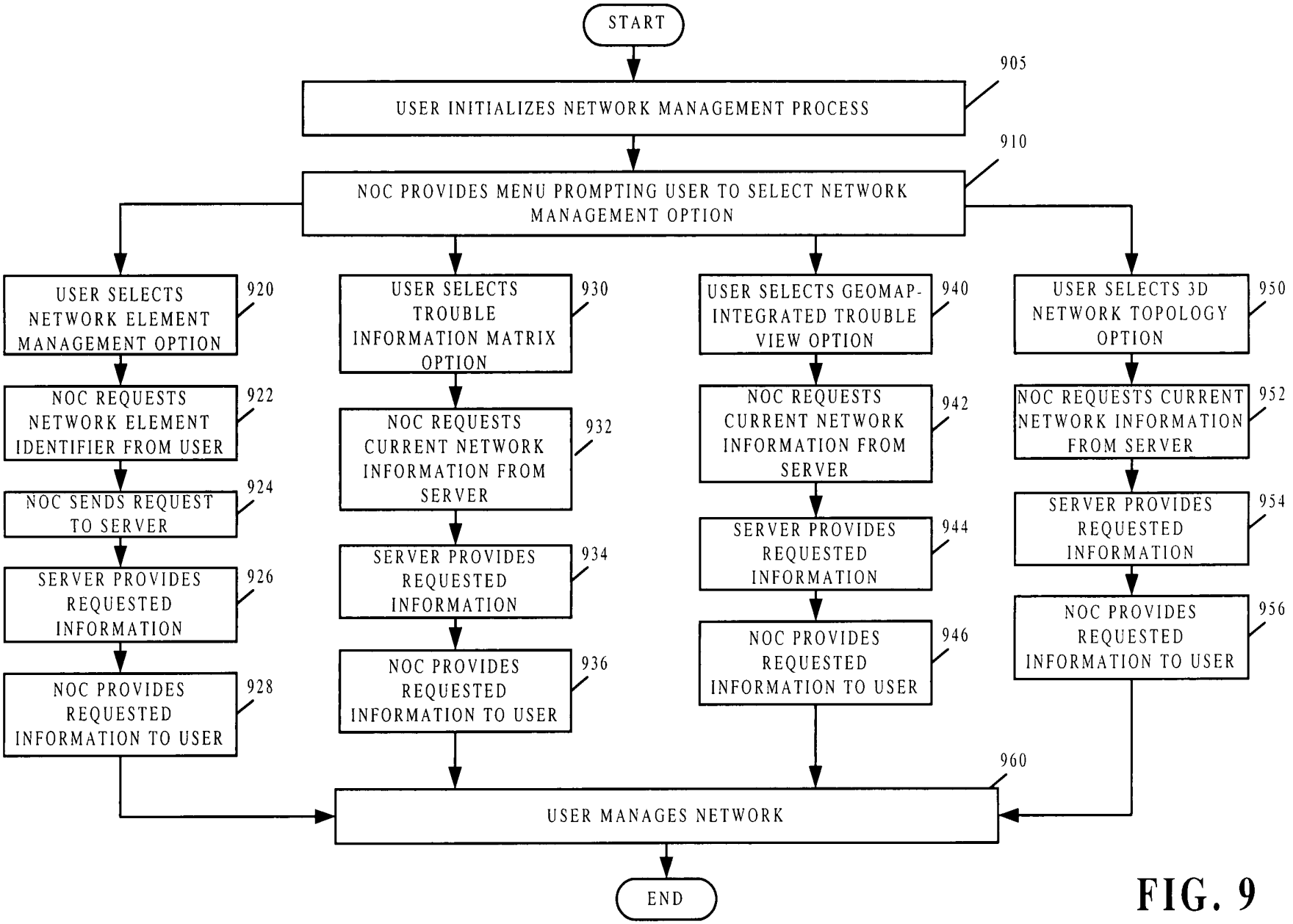
START
905
USER INITIALIZES NETWORK MANAGEMENT PROCESS
910
NOC PROVIDES MENU PROMPTING USER TO SELECT NETWORK MANAGEMENT OPTION
USER SELECTS NETWORK ELEMENT MANAGEMENT OPTION
920
NOC REQUESTS NETWORK ELEMENT IDENTIFIER FROM USER
922
NOC SENDS REQUEST TO SERVER
924
SERVER PROVIDES REQUESTED INFORMATION
926
NOC PROVIDES REQUESTED INFORMATION TO USER
928
USER SELECTS TROUBLE INFORMATION MATRIX OPTION
930
NOC REQUESTS CURRENT NETWORK INFORMATION FROM SERVER
932
SERVER PROVIDES REQUESTED INFORMATION
934
NOC PROVIDES REQUESTED INFORMATION TO USER
936
USER SELECTS GEOMAP-INTEGRATED TROUBLE VIEW OPTION
940
NOC REQUESTS CURRENT NETWORK INFORMATION FROM SERVER
942
SERVER PROVIDES REQUESTED INFORMATION
944
NOC PROVIDES REQUESTED INFORMATION TO USER
946
USER SELECTS 3D NETWORK TOPOLOGY OPTION
950
NOC REQUESTS CURRENT NETWORK INFORMATION FROM SERVER
952
SERVER PROVIDES REQUESTED INFORMATION
954
NOC PROVIDES REQUESTED INFORMATION TO USER
956
960
USER MANAGES NETWORK
END

FIG. 9

1000

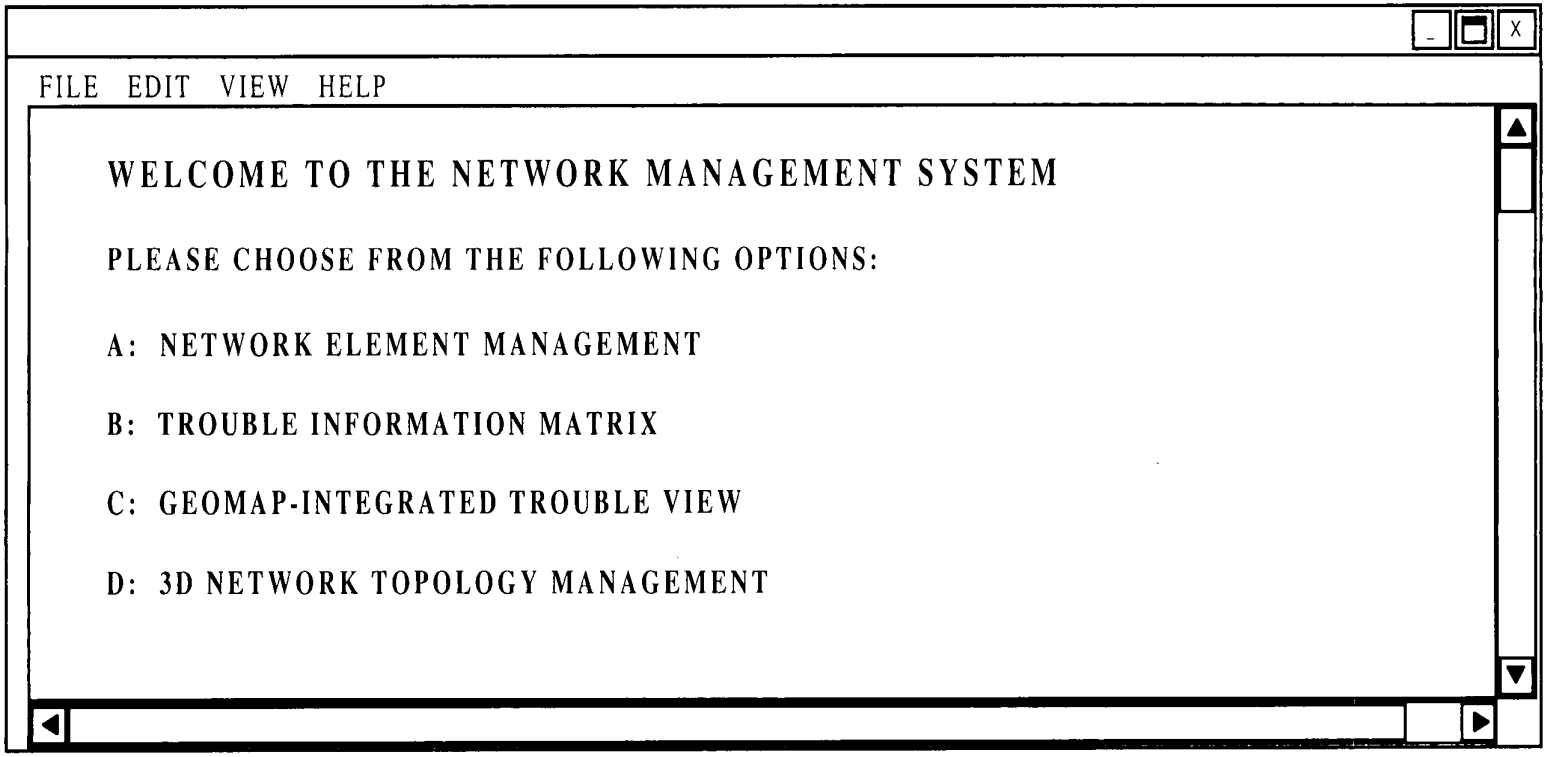
FILE EDIT VIEW HELP
WELCOME TO THE NETWORK MANAGEMENT SYSTEM
PLEASE CHOOSE FROM THE FOLLOWING OPTIONS:
A: NETWORK ELEMENT MANAGEMENT
B: TROUBLE INFORMATION MATRIX
C: GEOMAP-INTEGRATED TROUBLE VIEW
D: 3D NETWORK TOPOLOGY MANAGEMENT

FIG. 10